Climate Change Tips for Educators

http://www.epa.gov/climatechange/kids/resources/tips.html

Education Standards

This website addresses the eight categories of national science content standards EXIT Disclaimer by the National Academy of Sciences. The standards outline what middle school students should know, understand, and be able to do in the natural sciences.

The website also covers the seven climate science literacy principles compiled by the U.S. Global Change Research Program. These principles describe fundamental concepts for understanding Earth's climate, impacts of climate change, and approaches for adapting and mitigating change.

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This self-directed website is designed primarily for middle school students in both formal and informal educational contexts, including classrooms, camps, and after-school programs. Educators can use this website:

- **To create your own lessons**. Global climate change is a great topic for students to study because it integrates so many subjects: earth science, chemistry, biology, geography, economics, and more. It also requires students to use analytical tools and math skills and

to exercise their abilities to research and understand complex issues. This website provides background information, data, interactive challenges and quizzes, and graphics for educators to create or inform their own climate change lessons.

- **As a reference tool for students**. Climate change research can be daunting and confusing for students. While the Internet contains a lot of information about this topic, not all of it is accurate. Students also need to comprehend scientific terms and principles to understand global climate change. This website can serve as a reliable reference for students. It illustrates complex concepts like the greenhouse effect; explains terms in a comprehensive glossary; and presents the latest scientific data on the causes and effects of climate change.
- **As classroom activities or homework assignments**. There are many ways that educators can use the information in this website in the classroom or for homework assignments. For example:
    - **Take a climate change expedition!** In the classroom, divide students into small groups. Assign each group a different expedition module. After completing the module, the students can share what they learned with the rest of the class. The expedition can also be assigned as homework. Ask students to bring in the reward certificate they receive after completing all the modules to show they finished the assignment.
    - **Research impacts and solutions**. Ask students to thoroughly review the website sections "See the Impacts" and "Be Part of the Solution." Have students choose one climate change impact and summarize the observed and projected changes in one paragraph. Then ask students to describe three actions that can be taken to lessen or prepare for this impact.
    - **Explain the evidence**. Have students thoroughly review the website sections "Learn the Basics" and "Think Like a Scientist." Ask students to write a short paper explaining the human causes of climate change, including the sources of greenhouse gas emissions. Ask students to justify the evidence for human-caused climate change in the context of historical climate change, as well as the relevant scientific uncertainties and possible evidence to the contrary.
    - **Learn about energy and emissions**. Ask students to review the section "Be Part of the Solution." As a homework assignment or in-class discussion, ask students to explain why energy consumption is central to the production of greenhouse gas emissions. Have students discuss the various technological options that exist for reducing emissions and have them discuss policy solutions that could be developed to help address the challenge.